

Applicants note again that the subject matter of this invention was commonly owned at the time the invention was made, as evidenced by an assignment by all inventors of their rights in the invention to Bayer Aktiengesellschaft, recorded at Reel/Frame 012492/0051.

A third declaration of inventor Martin Melchior ("the third declaration") is submitted herewith under Rule 1.132.

Rejection Under 35 U.S.C. § 103

Claims 1-7 and 9-11 stand rejected under 35 U.S.C. § 103(a) as being obvious over U.S. Patent No. 5,126,393 ("Blum") in view of EP 0 159 117 B1 ("Hughes"). Applicants respectfully traverse this rejection.

Claim 1 of the present invention is directed to an aqueous coating composition prepared as a dispersion in which a urethane-modified polyol and a pyrazole-blocked polyisocyanate are mixed together prior to preparation of the aqueous dispersion.

It is asserted in the Office Action that it would be obvious to combine the teachings of Blum and Hughes and somehow arrive at the present invention. Applicants respectfully submit that neither Blum nor Hughes, alone or in combination, teaches or suggests how to incorporate cross-linkers blocked with pyrazoles into an aqueous dispersion, prior to the creation of the dispersion (addition of water), as presently recited in Claim 1.

The Office Action maintains that Blum teaches a composition in which the polyurethane-modified resin, the crosslinker and optional emulsifier can be mixed in any order to make an aqueous dispersion. Column 7, lines 16-18 (quoted above in the description of the Blum reference) is alleged to support this proposition. Applicants respectfully disagree with this characterization of the Blum reference.

The sentence cited to is only one sentence in a disclosure which is otherwise completely directed to methods of creating a composition in which the cross-linker is added after creation of the dispersion. One skilled in the art would not interpret the cited sentence in the manner suggested by the Examiner, based on a reading of the patent as a whole. The detailed description of preparation of the component (a), the polyurethane-modified resin, shows creation of an aqueous dispersion of the resin in

the last or next to last step, after preparation of the resin (column 5, lines 44-47). This description of resin preparation clearly shows that ingredient (a) is prepared as an aqueous dispersion prior to the addition of the other ingredients used to make the coating composition. All examples in the patent show preparation of an aqueous dispersion of the resin, prior to the addition of the other ingredients; not one example illustrates other types of dispersions, in which the crosslinker is added to the resin prior to the creation of an aqueous dispersion.

It is well settled in the law that a single line in a prior art reference should not be taken out of context and relied upon with the benefit of hindsight to show obviousness. In *In re Wesslau*, 353 F. 2d 238, 147 USPQ 391 (CCPA 1965) the Court of Customs and Patent Appeals cautioned that "it is impermissible within the framework of section 103 to pick and choose from any one reference only so much of it as will support a given position, to the exclusion of other parts necessary to the full appreciation of what such reference fairly suggests to one of ordinary skill in the art." One sentence in the Blum disclosure, in view of the teachings of the reference as a whole, is not a proper foundation for a §103 rejection. This sentence has been taken out of context to form the basis of the §103 rejection. The Blum reference as a whole, as it would be read and understood by one skilled in the art, teaches addition of the cross-linker after preparation of the aqueous dispersion.

It is asserted in the Office Action that Applicants have not shown the criticality of the order of addition of the ingredients or that addition of the blocked polyisocyanate of the invention after formation of the dispersion yields an unsatisfactory result. This is simply not the case.

Applicants submitted a Declaration Under 37 C.F.R. § 1.132 by Dr. Martin Melchior, dated June 7, 2004 ("the first Declaration") which shows that it is not possible to obtain a stable dispersion based on polyisocyanates which are blocked with pyrazole derivatives, if the dispersions are prepared according to the teachings of Blum and the blocked cross-linker is added after creation of the dispersion. The data in the first Declaration can be explained as follows:

(I) A polyisocyanate blocked with a pyrazole was prepared according to the invention (see example B1 in the application).

(II) An aqueous dispersion of the blocked polyisocyanate and a polyol containing urethane groups was prepared. The blocked polyisocyanate is added to the resin melt, and then water was added slowly while mixing to create the aqueous dispersion.

(III) An aqueous dispersion of polyol containing urethane groups was prepared, without the blocked polyisocyanate.

Clear coatings were then prepared as described under A (a) and A (b). In (a), the dispersion containing the blocked polyisocyanate from (II) above, is formulated into a clear coat. In (b), the dispersion without the blocked polyisocyanate from (III) above, is formulated into a clear coat, and the pyrazole- blocked polyisocyanate of (I) above is added at this time. As shown in Table 1 of the first declaration, the clear coat prepared by method (b) was inadequate, thus indicating that the order of addition of the pyrazole-blocked polyisocyanate is critical. The dispersion according to the invention provided a coating film with satisfactory appearance, good pendulum hardness and good solvent resistance, while the comparative coating had a strongly structured surface and insufficient film formation such that hardness and solvent resistance could not even be evaluated.

Waterborne stoving primer surfacers were also prepared, using the dispersions from (II) and (III) above. In the comparative example, the pyrazole-blocked polyisocyanate is added during preparation of the coating. As shown in Table 2, the coating composition prepared according to the method of Blum is also inadequate. This example also shows that order of addition is important. The dispersion according to the invention provided a coating film with superior gloss, hardness and appearance compared with a coating film prepared using the comparative dispersion. The comparative examples demonstrate that adding the blocked polyisocyanate after formation of the dispersion as shown in Blum does not provide the waterborne coating compositions of the present invention.

It is asserted in a previous Office Action that the examples are not commensurate in scope with the claims in terms of polyol and polyisocyanate composition, since the first declaration showed use of polyester polyol and aliphatic polyisocyanate. In response, Applicants submitted a second declaration of

Dr. Melchiors dated March 3, 2005 ("the second declaration"), with additional data showing aqueous dispersions based on aromatic polyisocyanates in combination with linear aliphatic polyethers. In the second declaration the description of the preparation of the blocked polyisocyanate in (I) inadvertently omitted the addition of the blocking agent, 3,5-dimethyl pyrazole. Applicants submit herewith a third Declaration of Dr. Melchiors in which the description of preparation of the blocked polyisocyanate has been corrected. This declaration is submitted to show that the composition is inventive across the full scope of the claims.

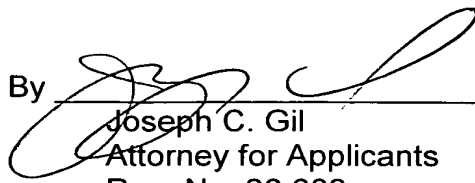
The examples in the application show use of aliphatic polycarbonate polyesters. Thus, Applicants have provided ample demonstration that the compositions of the present invention provide improved properties across the entire scope of the claims. One skilled in the art would reasonably conclude that any of the claimed polyisocyanates and polyols would provide the desired properties and behave similarly in the method of preparation, as shown in the comparative examples.

Applicants respectfully submit that Claims 1-7 and 9-11 are not obvious in view of the cited references. Only with the hindsight provided by the present invention would one skilled in the art conclude that a stable dispersion could be achieved in the manner recited in Claim 1. Applicants respectfully request withdrawal of the §103 rejection.

Conclusion

As all outstanding issues have been addressed, Applicants submit that Claims 1-7 and 9-11 are in condition for allowance; such action is respectfully requested at an early date.

Respectfully submitted,

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